

APPLICATION OF THE DOHERTY AMPLIFIER AS A PREDISTORTION CIRCUIT FOR LINEARIZING MICROWAVE AMPLIFIERS

ABSTRACT OF THE DISCLOSURE

A predistortion circuit for a microwave amplifier and more particularly to predistortion circuit configured as a Doherty amplifier. The predistortion circuit is adapted to be coupled to a downstream Doherty amplifier to precompensate for the gain compression and phase expansion of the downstream Doherty amplifier as the input power level is increased while simultaneously reducing the intermodulation (IM) distortion. In order to provide precompensation, the precompensation circuit is operated at bias level to provide gain expansion and phase compression to cancel out the gain compression and phase expansion of the downstream Doherty amplifier to provide a higher overall linear power added efficiency (PAE).